

What is claimed is:

1 1. An operation report creation system comprising:

2 CPU operation status obtaining means for obtaining, at
3 a regular interval, an execution address at which a CPU is
4 performing execution and for checking and recording a program
5 identifier of a program in execution from the obtained execution
6 address;

7 CPU operation time obtaining means for obtaining an
8 operation time of the CPU during an operation period; and

9 operation report creation means for obtaining a total
10 number of program identifiers, recorded by said CPU operation
11 status obtaining means, for a predetermined period for each
12 program identifier or each group of a plurality of predetermined
13 program identifiers and for outputting a value, obtained by
14 multiplying a ratio of the total number of program identifiers
15 for each program identifier or each group of the plurality of
16 predetermined program identifiers to a total number of program
17 identifiers recorded by said CPU operation status obtaining means
18 for the predetermined period and the CPU operation time obtained
19 by said CPU operation time obtaining means, as a CPU operation
20 time required for execution of a program corresponding to the
21 program identifier or of a program group corresponding to the
22 plurality of predetermined program identifiers.

1 2. The operation report creation system according to claim 1,

2 wherein said CPU operation status obtaining means records
3 a CPU operation status history record into a CPU operation status

4 history file, said record being composed of at least the program
5 identifier of the program and a time interval between a time
6 a previous execution address was obtained and a time a current
7 execution address is obtained,

8 wherein said CPU operation time obtaining means obtains,
9 at a regular interval, an operation time of the CPU during the
10 time interval and records a CPU operation time history record
11 into a CPU operation time history file, said record being composed
12 of at least the operation time of the CPU, and

13 wherein said operation report creation means reads the
14 CPU operation time history record stored in said CPU operation
15 time history file, cumulates the operation time of the CPU
16 included in the CPU operation time history record to calculate
17 the operation time of the CPU during the operation period, reads
18 the CPU operation status history record stored in said CPU
19 operation status history file, cumulates the time interval
20 included in the CPU operation status history record for each
21 program identifier or each group of the plurality of
22 predetermined program identifiers, and outputs a value, obtained
23 by multiplying a ratio of the time interval cumulated for each
24 program identifier or each group of the plurality of
25 predetermined program identifiers to a total of the time
26 intervals recorded by said CPU operation status obtaining means
27 during the predetermined period and the operation time of the
28 CPU during the operation period, as a CPU operation time required
29 for execution of a program corresponding to the program
30 identifier or to a program group corresponding to the plurality
31 of predetermined program identifiers.

1 3. The operation report creation system according to claim 2,
2 further comprising:

3 a conversion table that indicates a relation between a
4 total identifier which is a total unit for cumulating the time
5 intervals and the program identifier; and

6 conversion table updating means for updating the
7 conversion table,

8 wherein said operation report creation means cumulates
9 the time interval for each total identifier stored in said
10 conversion table.

1 4. An operation report creation method comprising:

2 a CPU operation status obtaining step for obtaining at
3 a regular interval, by a computer, an execution address at which
4 a CPU is performing execution and for checking and recording
5 a program identifier of a program in execution from the obtained
6 execution address;

7 a CPU operation time obtaining step for obtaining, by said
8 computer, an operation time of the CPU during an operation period;
9 and

10 an operation report creation step for obtaining, by said
11 computer, a total number of program identifiers, recorded by
12 said CPU operation status obtaining step, for a predetermined
13 period for each program identifier or each group of a plurality
14 of predetermined program identifiers and for outputting a value,
15 obtained by multiplying a ratio of the total number of program
16 identifiers for each program identifier or each group of the

17 plurality of predetermined program identifiers to a total number
 18 of program identifiers recorded by said CPU operation status
 19 obtaining step for the predetermined period and the CPU operation
 20 time obtained by said CPU operation time obtaining step, as a
 21 CPU operation time required for execution of a program
 22 corresponding to the program identifier or of a program group
 23 corresponding to the plurality of predetermined program
 24 identifiers.

1 5. The operation report creation method according to claim 4,
 2 wherein said CPU operation status obtaining step records
 3 a CPU operation status history record into a CPU operation status
 4 history file, said record being composed of at least the program
 5 identifier of the program and a time interval between a time
 6 a previous execution address was obtained and a time a current
 7 execution address is obtained,

8 wherein said CPU operation time obtaining step obtains,
 9 at a regular interval, an operation time of the CPU during the
 10 time interval and records a CPU operation time history record
 11 into a CPU operation time history file, said record being composed
 12 of at least the operation time of the CPU, and

13 wherein said operation report creation step reads the CPU
 14 operation time history record stored in said CPU operation time
 15 history file, cumulates the operation time of the CPU included
 16 in the CPU operation time history record to calculate the
 17 operation time of the CPU during the operation period, reads
 18 the CPU operation status history record stored in said CPU
 19 operation status history file, cumulates the time interval

20 included in the CPU operation status history record for each
21 program identifier or each group of the plurality of
22 predetermined program identifiers, and outputs a value, obtained
23 by multiplying a ratio of the time interval cumulated for each
24 program identifier or each group of the plurality of
25 predetermined program identifiers to a total of the time
26 intervals recorded by said CPU operation status obtaining step
27 during the predetermined period and the operation time of the
28 CPU during the operation period, as a CPU operation time required
29 for execution of a program corresponding to the program
30 identifier or to a program group corresponding to the plurality
31 of predetermined program identifiers.

1 6. The operation report creation method according to claim 5,
2 further comprising:

3 a conversion table updating step for updating, by said
4 computer, a conversion table that indicates a relation between
5 a total identifier which is a total unit for cumulating the time
6 intervals and the program identifier,

7 wherein said operation report creation step cumulates the
8 time interval for each total identifier stored in said conversion
9 table.

1 7. A program implemented by electrical signals for performing:

2 a CPU operation status obtaining process for obtaining,
3 at a regular interval, an execution address at which a CPU is
4 performing execution and for checking and recording a program
5 identifier of a program in execution from the obtained execution

6 address;

7 a CPU operation time obtaining process for obtaining an
8 operation time of the CPU during an operation period; and

9 an operation report creation process for obtaining a total
10 number of program identifiers, recorded by said CPU operation
11 status obtaining process, for a predetermined period for each
12 program identifier or each group of a plurality of predetermined
13 program identifiers and for outputting a value, obtained by
14 multiplying a ratio of the total number of program identifiers
15 for each program identifier or each group of the plurality of
16 predetermined program identifiers to a total number of program
17 identifiers recorded by said CPU operation status obtaining
18 process for the predetermined period and the CPU operation time
19 obtained by said CPU operation time obtaining process, as a CPU
20 operation time required for execution of a program corresponding
21 to the program identifier or of a program group corresponding
22 to the plurality of predetermined program identifiers.

1 8. The program implemented by electrical signals according to
2 claim 7,

3 wherein said CPU operation status obtaining process
4 records a CPU operation status history record into a CPU operation
5 status history file, said record being composed of at least the
6 program identifier of the program and a time interval between
7 a time a previous execution address was obtained and a time a
8 current execution address is obtained,

9 wherein said CPU operation time obtaining process obtains,
10 at a regular interval, an operation time of the CPU during the

11 time interval and records a CPU operation time history record
12 into a CPU operation time history file, said record being composed
13 of at least the operation time of the CPU, and

14 wherein said operation report creation process reads the
15 CPU operation time history record stored in said CPU operation
16 time history file, cumulates the operation time of the CPU
17 included in the CPU operation time history record to calculate
18 the operation time of the CPU during the operation period, reads
19 the CPU operation status history record stored in said CPU
20 operation status history file, cumulates the time interval
21 included in the CPU operation status history record for each
22 program identifier or each group of the plurality of
23 predetermined program identifiers, and outputs a value, obtained
24 by multiplying a ratio of the time interval cumulated for each
25 program identifier or each group of the plurality of
26 predetermined program identifiers to a total of the time
27 intervals recorded by said CPU operation status obtaining process
28 during the predetermined period and the operation time of the
29 CPU during the operation period, as a CPU operation time required
30 for execution of a program corresponding to the program
31 identifier or to a program group corresponding to the plurality
32 of predetermined program identifiers.

1 9. The program implemented by electrical signals according to
2 claim 8, further comprising:

3 a conversion table updating process for updating a
4 conversion table that indicates a relation between a total
5 identifier which is a total unit for cumulating the time intervals

6 and the program identifier,

7 wherein said operation report creation process cumulates

8 the time interval for each total identifier stored in said

9 conversion table.